

Claim 14 (Currently Amended): A system for wireless communication of data between an external content source and a mobile device with Internet capabilities equipped with a browser, comprising a converter for inline conversion of data in a first format as output from the external content source into a second, device-specific format to be received by the device or for conversion of data in the second, device-specific format into data in the first format, said system comprising:

- receiving means for receiving the data in the first format,
- a database for storing and retrieving a conversion scheme,
- a converter for converting the data based on a conversion scheme comprised of at least the following two separated conversion steps:
 - converting the data from the first format into an intermediate, device-independent format using content-specific selection rules, manually created for each application, relating the first format to the intermediate format[.],
 - converting the data in the intermediate format into a device-specific, second format using general rules relating the intermediate format to the device-specific, second format,

and transmitting means for transmitting the converted data.

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-14 are currently being prosecuted. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks as set forth below.

Claim Objections

The Examiner objected to claims 1-10 and 12-14 due to missing punctuation at the end of sentences. The Examiner also objected to claims 6-13 as depending from any preceding claims. The Examiner is reminded that a Preliminary Amendment was filed in the application on October 10, 2003. The Preliminary Amendment removed the multiple dependencies of the claims so that claims 2-13 all depend from claim 1. Accordingly, Applicants submit that the Examiner's objection to claims 6-13 is inaccurate and that this problem that has already been overcome. In regard to the missing punctuation, many of these problems were corrected in the Preliminary Amendment as well. To overcome the remaining problems, Applicant's have further amended claims 1, 5 and 14 to correct the remaining problems. Accordingly, this objection is now believed to be overcome as well.

Effective Dates of Applied References

In the prior art rejections, the Examiner applied two references, both of which are published U.S. Patent Applications. The Day et al. reference (U.S. Patent 2002/0194227) has a filing date of April 18, 2001 and is based on a provisional application having a filing date of December 18, 2000. The Eck reference (2002/0129059) was filed on December 29, 2000. The present application was filed on October 10, 2003, but is based on a parent application filed on April 4, 2001 which claims priority to a U.S. provisional application dated April 5, 2000. Thus, the present U.S. provisional application predates the earliest filing date of the two references by

over eight months. In view of this, Applicants submit that the applied published patent applications cannot be used in art rejections.

Rejection under 35 U.S.C. § 102

Claims 1-6, and 8-14 stand rejected under 35 U.S.C. § 102 as being anticipated by Day et al. The Examiner states that Day et al. teaches a method for communicating between a transmitting device and a receiving device including conversion of a source data in a first format as output from the transmitting device into a second device-specific format to be received by the receiving device including the steps of receiving data in the first format from the server, where the conversion is a two-step process and includes converting the data into an intermediate device independent standardized format and then converting the data into a device-specific second format and forwarding the data to the client.

Claim 1 describes a two-step process of first applying content or application specific selection rules based on the specific data being converted and the intended application of the source data. These rules extract the relevant information from the source documents and result in an intermediate non-device specific format. Secondly, the process applies general conversion rules according to the technical capabilities of the receiving device. Applicants submit that Day et al. does not include the first step of the two-step process. Instead, Day et al. relates to a conversion method using a general conversion to create an intermediate format which is then transformed to meet client specific needs.

Rejection under 35 U.S.C. § 103

In Day reference is made to a general means to convert source data into the intermediate format. Day does not disclose the usage of a device-independent, intermediate format and the step of on-the-fly converting this format according to the particular capabilities of a requesting device.

However, it is explicitly stated in the background description of Day that it is an objective of Day to overcome the need for manual intervention when converting from one format to another. Thus, Day presents a method wherein the intermediate format is generated by selecting and applying general conversion rules (or conversion templates).

When starting from Day, it is a problem of the method that the transformation process relies too much on a general means of transformation so that clients with limited capabilities, such as mobile clients, may not be able to optimally present the desired data. The reason for this drawback is that no general transformation can, in practice, know exactly what content is to be selected or emphasized from the source data when it is being presented in a limited device. Only by relying on application specific filtering rules, defined with a development tool, that pinpoint exactly what part of the source content is to be used or emphasized can optimally presentation in the limited devices be achieved.

The present invention teaches an approach to these problems based on at least two-step, on-the-fly, conversion process, where the first step involves converting the source data into an intermediate, device-independent format and the second step involves converting the

intermediate format into a device-specific document suitable to match the capabilities and data format requirements of the requesting device.

The present invention relates to an application-specific conversion from the source data to the intermediate format using application-specific selection rules that are manually defined by a developer with a development tool, thus extracting the relevant information using transformations defined with a development tool.

The present invention clearly claims that the generation of the intermediate format is based on selection rules that are defined with a development tool (i.e. manually defined by a developer) and are used to extract the relevant content from the source.

The difference between the teachings of the present invention and Day can be illustrated by an example as follows:

Let us suppose a source document contains 10 separate items of information (e.g. current temperature in 10 cities). Also, let us suppose that a developer prefers to use only 1 of these items to prepare a separate application document in a different format (e.g. the developer wants to create an application that displays the temperature in his home city only). It is apparent that no general conversion rule exists that would have been able to somehow deduce which items to use (because they all look equivalent and only by considering the preference of the application developer would it be possible to know which city to use).

The present invention provides the optimal approach for this desired application since the first transformation step is based on developer created conversion rules (the developer manually hand-picks the desired content (and is aided by a GUI-based development tool for the purpose)). The second step is then based on automatic general conversion rules that adapt to different clients (like in Day).

There is nothing in Day that suggests that this kind of application, where a manual hand-picking of the desired parts of the source content is needed, can be accomplished. Day does describe a user interface system to select: an input document, input document format and the desired output format, its presentation style, display, content structure, and display page layout. However, all of these selections are aimed at tweaking a transformation process based on general conversion rules. Day teaches a method aimed at overcoming the need for manually transforming the source content when generating the output document. It is fundamentally different from the present invention because the present invention acknowledges that for certain applications it is not practically possible to use general conversion rules, irrespective of how much one can tweak them. The user interface system described by Day is not aimed at manually hand-picking the relevant parts of the source content but rather aims at allowing the receiver of the output document to influence the conversion and manually initiate a conversion when needed. In the description of Day (page 5, paragraph 0039) it is stated that the user is able to use an existing control information document or create a control information document to be used for the transformation but there is nothing in the description or in the claims that suggest that this enables the user to manually hand-pick the desired content from the source document. "Control information document" is not well defined in the art and, due to lack of further explanation, it

must be construed that this refers to a method of tweaking or influencing the general conversion templates (like all other user selectable options mentioned by Day). This view is further reinforced by considering that, in the background, Day explicitly mentions the objective of overcoming the need for manually defining the transformation rules.

Applicant finds that the problem of converting the source data (e.g. content residing on existing websites) to clients with limited capabilities is optimally solved precisely as taught by the present invention. Without the intermediate format and without the automatic and general conversion from the intermediate format to a format suitable for the type of requesting device in question, an application developer would have to worry about a plethora of different device capabilities while building an application.

The present invention differs from other methods in the method of generating the intermediate format. Applicants submit that it is often impossible to achieve the desired amount of flexibility in application creation, unless the developer has full control over what data from the source document is extracted and converted into the intermediate device-independent format. Many webpages are not logically structured because it is virtually impossible to use general conversion rules even if you can customize them to a certain extent. It is, thus, this combination of (1) a manual developer defined application-specific conversion step, (2) advice-independent intermediate format and (3) automatic general conversion from this format to suit the needs of all the devices that Applicant finds which defines the present claimed invention over Day et al. In the present invention, it enables one skilled in the art to develop an application where only one developer-defined transformation is required for all of the different types of devices, while

retaining enough flexibility to develop any application based on content found in various content sources. This unique approach of acknowledging the need for manually defined first conversion step and also utilizing a device-independent intermediate format coupled with general conversion rules is certainly unobvious and is considerably different than the teachings of Day et al. and the other references.

Thus, Day et al. does not teach the present claimed invention and further, it would not be obvious to one skilled in the art to arrive at the claimed invention based on the Day et al. reference. Accordingly, Applicants submit that claim 1 is allowable over this reference.

Claims 2-14 depend from claim 1 and as such are also considered to be allowable. In addition, each of these claims recite other features which make these claims additionally allowable. Thus, these claims recite in great detail the specifics of the various formats, the rules for conversion and the specific devices utilized. Accordingly, these claims are additionally allowable.

Claim 14 is an independent claim describing the system which corresponds to the method of claim 1. Applicants submit that this claim is allowable for the same reasons recited above.

Rejection under 35 U.S.C. § 103

Claim 7 stands rejected under 35 U.S.C. § 103 as being obvious over Day et al. in view of Eck. This rejection is respectfully traversed.

The Day et al. reference does not explicitly teach that the legal format is XML. The Examiner relies on Eck to teach the use of the XML format. The Examiner feels it would have been obvious to one of ordinary skill in the art to modify the system of Day et al. to include the XML format as taught by Eck. Applicants submit that even if the Eck reference does teach this feature, this claim is still allowable based on its dependency from allowable claim 1. Accordingly, Applicants submit that this rejection is also overcome.

CONCLUSION

In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied on by the Examiner either alone or in combination. In view of this, reconsideration of the rejections and allowance of all of the claims is respectfully requested.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

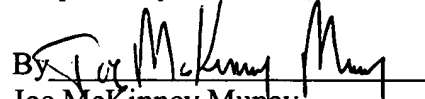
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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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